Gary Christensen

ABT Burner Contract

Spec 45605 pg C2-1

Maximum Wear Life of Primary Air/Coal Path Components (Minimum Four (4) Years):	Nozzles: 6-8 yrs Fuel Dist. 4-6 yrs

pg C3-1

Those exposed to direct furnace radiation, i.e., flow divider, spin vanes, throat castings, register front cone, fuel injector tip and flame stabilizers:	Material Limitation 2000 F

ABT Proposal Q03013

Section 4.1

ABT shall warrant the workmanship and quality of the supplied parts from start-up date for a period of 12 months and 48 months for coal nozzle tips.

Section 4.9

... the fuel injector will be sized to follow the mills' primary air flow characteristic. Consequently, ABT will design the burners for full load primary air flow, per mill, as per the OEM mill curves, with one mill out of service at boiler full load.

Section 5.4

ABT does not recommend any spares associated with the injector or burner register assemblies as there is low risk of failure and our customers have not seen the need for stocking any of the associated parts. The longest lead parts are castings, for which we maintain the patterns, that can be supplied within 1-2 weeks.

Section 6.4

The reason we stated that there is no environmental limitations to the coal burners is the stainless steel castings and plate facing the fire, ASTM 297 Gr HE or 309 will not deteriorate at temperatures of at least 2000 F.

Consequently, we do not consider that operation of our design in your boiler to have any environmental limitations: the conditions are such that no material will operate anywhere near its limit. In fact, we have placed no limitations on any retrofit we have done.

Section 7.2

In the ABT design, all wear is limited to the wear-resistant devices in the elbow. The Opti-Flow system eliminates coal ropes and produces a nearly uniform fuel/air mix with axial flow downstream of the elbow.